



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Unknown ☐

Brief Description:

19th century iron furnace complex

Site Location and Environmental Data:

Latitude 39.4963 Longitude -76.2499

Elevation 24 m Site slope 0

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

Maryland Archeological Research Unit No. 6

SCS soil & sediment code

Physiographic province Western Shore Coastal

Terrestrial site ☒

Underwater site ☐

Ethnobotany profile available ☒ Maritime site ☐

Nearest Surface Water

Name (if any) James Run

Saltwater

Ocean ☐

Estuary/tidal river ☐

Tidewater/marsh ☐

Spring ☐

Minimum distance to water is 0 m

Freshwater

Stream/river ☒

Swamp ☐

Lake or pond ☐

Temporal & Ethnic Contextual Data:

Paleoindian site ☐

Woodland site ☐

Archaic site ☐

MD Adena ☐

Early archaic ☐

Early woodland ☐

Middle archaic ☐

Mid. woodland ☐

Late archaic ☐

Late woodland ☐

Unknown prehistoric context ☐

Contact period site ☐

ca. 1820 - 1860

Y

ca. 1630 - 1675

ca. 1860 - 1900

Y

ca. 1675 - 1720

ca. 1900 - 1930

ca. 1720 - 1780

Post 1930

ca. 1780 - 1820

Unknown historic context ☐

Unknown context ☐

Ethnic Associations (historic only)

Native American ☐

Asian American ☐

African American ☐

Unknown ☐

Anglo-American ☐

Other ☐

Hispanic ☐

Y=Confirmed, P=Possible

Site Function Contextual Data:

Prehistoric

Multi-component ☐

Misc. ceremonial ☐

Village ☐

Rock art ☐

Hamlet ☐

Shell midden ☐

Base camp ☐

STU/lithic scatter ☐

Rockshelter/cave ☐

Quarry/extraction ☐

Earthen mound ☐

Fish weir ☐

Cairn ☐

Production area ☐

Burial area ☐

Unknown ☐

Other context ☐

Historic

Urban/Rural? Rural ☐

Domestic

Homestead ☐

Farmstead ☐

Mansion ☐

Plantation ☐

Row/townhome ☐

Cellar ☐

Privy ☐

Industrial

Mining-related ☐

Quarry-related ☐

Mill ☐

Black/metalsmith ☐

Furnace/forge ☒

Other ☒ Iron Furnac

Transportation

Canal-related ☐

Road/railroad ☐

Wharf/landing ☐

Maritime-related ☐

Bridge ☐

Ford ☐

Educational

Commercial

Trading post ☐

Store ☐

Tavern/inn ☐

Military

Battlefield ☐

Fortification ☐

Encampment ☐

Townsite

Religious

Church/mtg house ☐

Ch support bldg ☐

Burial area

Cemetery ☐

Sepulchre ☐

Isolated burial ☐

Bldg or foundation

Possible Structure ☐

Post-in-ground ☐

Frame-built ☐

Masonry ☒

Other structure ☐

Slave related

Non-domestic agri

Recreational

Midden/dump

Artifact scatter

Spring or well

Unknown

Other context

Interpretive Sampling Data:

Prehistoric context samples

Soil samples taken ☐

Flotation samples taken ☐

Other samples taken ☐

Historic context samples

Soil samples taken Y

Flotation samples taken Y

Other samples taken ☐



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Unknown ☐

Brief Description:

19th century iron furnace complex

Diagnostic Artifact Data:

Projectile Point Types	
Clovis	<input type="text"/>
Hardaway-Dalton	<input type="text"/>
Palmer	<input type="text"/>
Kirk (notch)	<input type="text"/>
Kirk (stem)	<input type="text"/>
Le Croy	<input type="text"/>
Morrow Mntn	<input type="text"/>
Guilford	<input type="text"/>
Brewerton	<input type="text"/>
Otter Creek	<input type="text"/>
Koens-Crispin	<input type="text"/>
Perkiomen	<input type="text"/>
Susquehanna	<input type="text"/>
Vernon	<input type="text"/>
Piscataway	<input type="text"/>
Calvert	<input type="text"/>
Selby Bay	<input type="text"/>
Jacks Rf (notch)	<input type="text"/>
Jacks Rf (pent)	<input type="text"/>
Madison/Potomac	<input type="text"/>
Levanna	<input type="text"/>

Prehistoric Sherd Types

Marcey Creek	<input type="text"/>	Popes Creek	<input type="text"/>	Shepard	<input type="text"/>	Keyser	<input type="text"/>
Dames Qtr	<input type="text"/>	Coulbourn	<input type="text"/>	Townsend	<input type="text"/>	Yeocomico	<input type="text"/>
Selden Island	<input type="text"/>	Watson	<input type="text"/>	Minguanan	<input type="text"/>	Monongahela	<input type="text"/>
Accokeek	<input type="text"/>	Mockley	<input type="text"/>	Sullivan Cove	<input type="text"/>	Susquehannock	<input type="text"/>
Wolfe Neck	<input type="text"/>	Clemson Island	<input type="text"/>	Shenks Ferry	<input type="text"/>		
Vinette	<input type="text"/>	Page	<input type="text"/>	Moyaone	<input type="text"/>		
				Potomac Cr	<input type="text"/>		

Historic Sherd Types

Earthenware		Ironstone	<input type="text"/>	Staffordshire	<input type="text"/>	Stoneware	
Astbury	<input type="text"/>	Jackfield	<input type="text"/>	Tin Glazed	<input type="text"/>	English Brown	<input type="text"/>
Borderware	<input type="text"/>	Mn Mottled	<input type="text"/>	Whiteware	<input type="text"/>	Eng Dry-bodie	<input type="text"/>
Buckley	<input type="text"/>	North Devon	<input type="text"/>		<input type="text"/>	Nottingham	<input type="text"/>
Creamware	<input type="text"/>	Pearlware	<input type="text"/>	Porcelain	<input type="text"/>	Rhenish	<input type="text"/>
						Wt Salt-glazed	<input type="text"/>

All quantities exact or estimated minimal counts

Other Artifact & Feature Types:

Prehistoric Artifacts	
Flaked stone	<input type="text"/>
Ground stone	<input type="text"/>
Stone bowls	<input type="text"/>
Fire-cracked rock	<input type="text"/>
Other lithics (all)	<input type="text"/>
Ceramics (all)	<input type="text"/>
Rimsherds	<input type="text"/>
Other fired clay	<input type="text"/>
Human remain(s)	<input type="text"/>
Modified faunal	<input type="text"/>
Unmod faunal	<input type="text"/>
Oyster shell	<input type="text"/>
Floral material	<input type="text"/>
Uncommon Obj.	<input type="text"/>
Other	<input type="text"/>

Prehistoric Features

Mound(s)	<input type="text"/>	Storage/trash pit	<input type="text"/>
Midden	<input type="text"/>	Burial(s)	<input type="text"/>
Shell midden	<input type="text"/>	Ossuary	<input type="text"/>
Postholes/molds	<input type="text"/>	Unknown	<input type="text"/>
House pattern(s)	<input type="text"/>	Other	<input type="text"/>
Palisade(s)	<input type="text"/>		
Hearth(s)	<input type="text"/>		
Lithic reduc area	<input type="text"/>		

Lithic Material

Jasper	<input type="text"/>	Chalcedony	<input type="text"/>	Sil sandstone	<input type="text"/>
Chert	<input type="text"/>	Ironstone	<input type="text"/>	European flint	<input type="text"/>
Rhyolite	<input type="text"/>	Argilite	<input type="text"/>	Basalt	<input type="text"/>
Quartz	<input type="text"/>	Steatite	<input type="text"/>	Unknown	<input type="text"/>
Quartzite	<input type="text"/>	Sandstone	<input type="text"/>	Other	<input type="text"/>

☐ Dated features present at site

Historic Artifacts	
Pottery (all)	<input type="text"/>
Glass (all)	<input type="text"/>
Architectural	<input type="text"/>
Furniture	<input type="text"/>
Arms	<input type="text"/>
Clothing	<input type="text"/>
Personal items	<input type="text"/>
Tobacco related	<input type="text"/>
Activity item(s)	<input type="text"/>
Human remain(s)	<input type="text"/>
Faunal material	<input type="text"/>
Misc. kitchen	<input type="text"/>
Floral material	<input type="text"/>
Misc.	<input type="text"/>
Other	<input type="text"/>

Historic Features

Privy/outhouse	<input checked="" type="checkbox"/>	Depression/mound	<input type="text"/>	Unknown	<input type="text"/>
Const feature	<input type="text"/>	Burial(s)	<input type="text"/>	Other	<input type="text"/>
Foundation	<input checked="" type="checkbox"/>	Trash pit/dump	<input type="text"/>		
Cellar hole/cellar	<input type="text"/>	Sheet midden	<input type="text"/>	Railroad bed	<input type="text"/>
Hearth/chimney	<input type="text"/>	Planting feature	<input checked="" type="checkbox"/>	Earthworks	<input type="text"/>
Postholes/molds	<input type="text"/>	Road/walkway	<input type="text"/>	Mill raceway	<input checked="" type="checkbox"/>
Paling ditch/fence	<input checked="" type="checkbox"/>			Wheel pit	<input type="text"/>

All quantities exact or estimated minimal counts

Radiocarbon Data:

Sample 1:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 2:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 3:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability
Sample 4:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 5:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 6:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability
Sample 7:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 8:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability	Sample 9:	<input type="text"/>	+/-	<input type="text"/>	years BP	Reliability

☐ Additional radiocarbon results available



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Brief Description: 19th century iron furnace complex

Unknown ☐

External Samples/Data:

Collection curated at MAC

☒ Additional raw data may be available online

Summary Description:

The Harford Furnace Site (18HA148) is a 19th century iron furnace complex located in Harford County, Maryland. There is also a small prehistoric component with diagnostics dating from the Middle Archaic to the Late Woodland periods. The area encompassed by the site boundaries is an irregular, semi-triangular shape that measures roughly 200 m north-south by 375 m east-west along the longest axes. Maryland Route 543 bisects the site from northwest-southeast. The Harford Furnace Store (MIHP # HA-1069) and the Charcoal Shed/Smith House (MIHP # HA-1247) are the only extant structures located within the site boundaries, along with a segment of a raceway located at the southeastern edge of the site. The site is bordered by ridges on the northeast and northwest, and by James Run (a tributary of Bush River) to the south. It is a component of the Harford Furnace Historic District which was added to the National Register of Historic Places in 1990 (NR #90001020; MIHP # HA-1755). Contained within the Historic District boundaries, but not Site 18HA148 boundaries, are the Glebe Main House (MIHP # HA-871) and Spring House (MIHP # HA-872), and the remains of several other buildings, three stack bases, a mill race, a tail race, and a road segment. Soils present in the site area are the Codorus series, alluvially deposited silt loams that are frequently inundated.

While there were no predictive models for prehistoric settlement in the area, the general regional settlement pattern would suggest low to moderate potential for prehistoric sites. The site's location immediately adjacent to James Run is a positive factor, but it's location in frequently inundated soils is a negative factor. However, the location was ideally suited for the establishment of an iron works. There was abundant water with enough head to power the furnace and associated equipment, and the steep slopes above the James Run floodplain were ideal locations for furnace stacks, which were traditionally built into hillsides to facilitate charging. Supplies of iron ore, limestone, shell for flux, and wood for charcoal, as well as access to navigable water for sea transport of the finished product, were readily available.

It had been postulated in the past that the Harford Iron Furnace was originally known as the Bush Furnace or the Bush River Iron Works. However, it is now generally agreed that Bush Furnace and Harford Furnace were not on the same site. Evidence contrary to the two furnaces being located at the same site was found in a 1776 deed that indicated Bush River Iron Works was located on a parcel of land called "Come by Chance" on Bush River, on each side of "King's Road" or present day Route 7, approximately 2 km to the south of Harford Furnace. It was also indicated that the Bush Furnace was located near Bush/Harford Town and not at the present site of Harford Furnace. It is unclear how long the Bush River Furnace was in operation but it appears to have been shut down sometime between 1815 and 1830. Records from ca. 1830 related an agreement entered into by 3 partners to establish a furnace on James Run called the Harford Furnace. Presumably, the Harford Furnace replaced the function of the Bush River Iron Works at that time.

Between 1831 and 1833, the partners sold their shares in the Harford Furnace to new partners who acquired more land including "Come by Chance", the site of the old Bush Furnace. It was not until 1834 that the parcel containing the main furnace complex was acquired, indicating that the furnace was not built until after that time. By 1857, their holdings comprised more than 5000 acres. According to some sources, the furnace was taken down and/or rebuilt in 1839 and rebuilt again in 1845. In 1859, it was described as a "Steam and Water Cold-Blast Charcoal Furnace". At its peak there were said to be 48 buildings on the property including a store, a post office, a blacksmith shop, a lime kiln, a saw mill, various warehouses, and worker's houses, as well as the ironworks complex. The Glebe Main House that is located in the Historic District and just northwest of the site, originally built in the first half of the 18th century, was said to have had an ell constructed on its west side for use as a boarding house during the peak of iron production at the Harford Furnace; however, it may also have been used as a barn. Census research for 1850, 1860, and 1870 revealed that a primarily white male, foreign-born, transient work force was employed at the furnace. The age distribution clustered in the 30s and 40s. In most cases, nearly half of the workers were married and several had children.

Between 1861 and 1867 the furnace changed hands twice. Some records suggested that the furnace blew out for the last time in 1864 and was converted into a soap and chemicals factory. However, the 1867 deed indicated that iron was still being made at least up to the 1867 transfer date. In 1876, when the property was auctioned off, an iron furnace and related materials were among the items included in the sale. Buildings, constructed after 1867, and materials related to a chemical works were also in the listed property assets. It is not clear, however, if the furnace was actively making iron between 1867 and 1876. The furnace stack was finally dismantled sometime between 1876 and 1909. Historic maps of the site area detail the decline the Harford Furnace which had 18 structures depicted on an 1858 map, 10 structures by 1878, and only 7 structures by 1901. The Charcoal Shed was converted to use as a dwelling in 1950 and the Furnace Store, located approximately 175 m northeast of the Charcoal Shed, was converted to use as a private dwelling sometime prior to 1953.

Work was undertaken at Site 18HA148 in 1981 during a survey conducted ahead of proposed construction related to improvements to Maryland Route 543 north of James Run to Maryland Route 7. Several alternate alignments had been proposed within the large area surrounding Harford Furnace. A nearly triangular area of the furnace complex north of James Run was investigated. The study area measured about 24.38 m (80') east-west by 121.92 m (400') north-south. Testing consisted of the excavation of approximately 15 test pits at 15 m intervals and 3 pits dug at closer intervals at the northern tip of the study area. Test pits measured approximately 60x60 cm, with test pit #1 adjacent to James Run to the south and test pit #18 at the northernmost point of the project area. The area was extremely overgrown making it difficult to pinpoint exactly the location of the test pits.

A total of 75 historic artifacts were recovered during the 1981 investigations. There were 25 architectural items: 3 brick fragments, 2 window glass fragments, 2 wrought nails, 14 cut nails, 2 unidentified nails (1 possibly wrought), 1 screw, and 1 piece of plaster/mortar. There were 28 kitchen-related items: 2 bottle glass fragments, 10 whiteware sherds, 5 pearlware sherds, 2 earthenware sherds, 4 fragments of animal bone, and 5 fragments of oyster shell. Miscellaneous items (n=21) included 1 piece of unidentified metal and a minimum estimate of 20 pieces of slag. A single tobacco item, 1 kaolin pipe fragment, was collected.

The majority of materials were collected from the northernmost 3 test pits. An extensive search in the vicinity of the pits failed to locate any associated foundations or features on the surface. Therefore, it was concluded that the materials, which were representative of the 19th century, were either associated with some nearby but not immediately located structure (possibly not visible in the heavy overgrowth) or the artifacts were disposed of in the area.

A Phase II site evaluation was undertaken at 18HA148 in April 1985 prior to the proposed replacement of the bridge that carries Maryland Route 543 over James Run, and realignment of a section of the Route 543 approach to the bridge. Given that the project area runs through the Harford Furnace Site, goals of the archeological investigations were to determine the site's eligibility for listing on the National Register of Historic Places including assessing the integrity of the site, and to determine the potential effects of the proposed construction activities on the cultural resource. The project area measured an average of 21.33 m (70') wide west of Route 543 and 12.19 m (40') wide to the east. The majority of the project area to the east side of Route 543 sloped steeply except for a small portion to the south. On the west side of Route 543, about half of the project area was in the flood plain, and to the north the project area sloped upward fairly steeply from a pronounced ridge, with the slope continuing to the end of the project area near Goat Hill Road. James Run formed the southern boundary



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Brief Description:

19th century iron furnace complex

Unknown ☐

of the study area.

Archival research was conducted to provide context for evaluating the site's significance. Subsurface investigations on the west side of Route 543 included the excavation of a series of shovel test pits (roughly 130) dug at 5 m intervals, with closer intervals when artifacts were encountered and in areas with obscured surface visibility. Fifteen 1x1 m test units, one 1x0.5 m test unit (TU 6), and one 2x0.5 m test unit (TU 18) were also excavated. Approximately 20 STPs and 1 test unit (TU 17) were located just outside and adjoining the northern boundary of the site; however, because the artifacts from the STPs and TU were identical to the materials collected elsewhere from the site they were included in the overall count in the table above. Three machine trenches (Trenches A-C) were also dug on the west side of Route 543 in an area densely covered with evergreen trees. The limited shovel testing that was possible in that area revealed it to be covered with a thick layer of slag that had been bulldozed from the nearby Charcoal House site in 1950; this was confirmed by the trenching. A surface collection and the excavation of approximately 9 STPs were conducted on the east side of Route 543. All excavated soils were screened through 0.635 cm (1/4") mesh.

Subsurface testing on the west side of Route 543 resulted in the identification of an area of high artifact density measuring about 900 m² in the southern portion of the study area, which was designated Area 1. This area was adjacent to the portion of the site tested during the Phase I survey. Thirteen test units (TUs 1-12 and 14) were excavated in the area in order to define the nature of the concentration. TU 3 measured 1x2 m and a 2x0.5 m extension was added to the west side of TU 14. Cultural features were found in 4 of the test units. Postholes were encountered in TUs 5 and 11 at depths of 26 and 31 cmbs respectively. Each posthole was about 45 cm deep. A layer of irregularly shaped stones within a mottled dark gray and yellowish-brown matrix was located in TUs 3 and 14 at a depth of 46 cmbs. A total of 20 cm of the fill was excavated but no associated cultural materials were found. The remaining stones were left in situ. The 4th feature in Area 1 was identified as a compact layer of strong brown sand flecked with charcoal located at ca. 20 cmbs (Layer B) in TU 10. The layer extended to the west.

Also on the west side of Route 543, just outside the right-of-way, surface remains of a structure were identified and a surface collection of artifacts from within the structure was made. The remains were identified as Area 4. The foundation remains measured 9 m east-west by 6.5 m north-south. Surface collected artifacts included several cut nails, ceramics, burnt glass, and the remains of a cast iron stove. Three test units (TUs 13, 15, and 16) were dug in the right-of-way closest to the structure but no significant finds were made in the units.

Two cultural features related to the furnace complex were identified in the project area on the east side of Route 543. Area 2 was defined by the remnants (ca. 400 m) of the former raceway. TU 18 was excavated across the raceway, from which no artifacts other than slag were recovered. Area 3 was defined by a stone retaining wall and the remains of stone steps that at one time led up to the Foundry Store. Archeological investigation consisted only of clearing the brush and vegetation that had grown up around the feature. No subsurface testing was done and no artifacts were recovered during the clearing, but photographs were taken.

Area 5 was also identified on the east side of Route 543, in the southernmost section of the project area. It consisted of a 20th century trash deposit located on a level area just north of James Run. A representative sample of artifacts was surface collected from the deposit for analysis. Two STPs, one excavated to the north and one to the east of the deposit, did not encounter any subsurface features or significant cultural material.

Based on an assessment of the artifacts collected from the Phase II investigations at the site, a differential distribution of artifacts was observed. Industrial group artifacts, those directly associated with the industrial processes carried out at the furnace such as slag, waster iron, charcoal, limestone, etc., were fairly ubiquitous throughout the project area. Such large quantities of iron furnace slag were present that only a sample from each STP and test unit was retained. Three types of slag were identified in the assemblage: glassy slag, frothy slag, and ferrous or iron slag. Because it was difficult in many cases to distinguish between the ferrous slag and waste iron, the distinction made in the artifact inventory was subjective. Given the large amount of slag present in the project area, it was suggested that historically the slag was hauled and dumped here, the area being east of the main furnace complex. Charcoal and limestone were also present on the site in large quantities; both were ingredients of the iron-making process. Several runners, which are half round sections of cast iron formed in channels that led to the casting, were found at the site. Most likely, simple flat objects were cast in an open, flat bed of sand enclosed with a wooden frame. Some flat cast iron fragments resembling stove plates were found at the site, possibly indicating that stoves were being produced at the Harford Furnace. A report from 1859 indicated that car wheel metal was made at the furnace. The presence of ox shoes in the site assemblage points to oxen, as well as mules and horses, having been utilized at the site for activities such as moving the iron to the railroad or river for transport.

Domestic artifacts, such as ceramics, glass, faunal remains, cut nails, etc., were concentrated in Area 1 and were present in Area 5 at the southern end of the site. Domestic materials, which exhibited signs of burning, were also present in Area 4 at the northern end of the site. The quantity of nails recovered from Area 1, in association with the posthole features encountered in the area, suggested that a wooden structure may have formerly stood at that location, possibly one of the workers' houses which are documented at Harford Furnace. The artifact assemblage from Area 1, with dates based on ceramic types (especially whiteware which was found in abundance), an 1882 coin, and a pipe fragment made from pipemakers who went out of business in 1881, suggested that Area 1 was out of use by the 1880s and that the assemblage as a whole was consistent with a date range of ca. 1850-1880. Area 5, the 20th century trash deposit, contained rubble that probably derived from the replacement of the James Run bridge sometime in the recent past. The deposition of that material may have attracted additional trash later in the 20th century.

A total of 8,819 historic artifacts were collected during the Phase II investigations at the site. There were 2,347 activity items, most of which were related to functioning of the iron furnace: 1,417 slag fragments (166 ferrous, 889 glassy, 357 frothy, 5 unidentified), 1 piece of iron ore, 169 iron fragments, 72 pieces of iron shot, 1 iron wedge, 18 iron runners, 16 fragments of strap iron and 1 attached hinge, 5 iron rod and bar fragments, 9 fragments of sheet iron, 160 pieces of charcoal, 1 piece of clinker, 8 limestone fragments, some with adhering slag, 1 fragment of compressed sand, 410 oyster shell fragments, 9 clay fragments, some with slag inclusions, 2 machine parts, 2 pieces of road gravel, 8 cast iron fragments-most likely stove parts, 4 iron stove hob fragments, 1 iron cart fitting, 2 ox shoe fragments, 1 iron pick tip, 1 round-ended shovel blade, 1 copper and iron thermostat, and 1 iron brace. The remainder of the activity items may have been related to the daily lives of the ironworkers and their families rather than the furnace production: 2 bisque doll head fragments, 1 slate pencil, 1 broken clay marble, 1 broken oil lamp burner, 2 bucket handles, 4 flower pot sherds, 2 iron weights, 5 iron wire lengths, 3 chain link lengths, 1 ferrule, 2 harness buckles, 1 piece of car window glass, and 1 steel spring. In all, 3,380 architectural objects were identified: 701 brick fragments, 212 fire brick fragments, 1 wrought nail, 1 rosehead nail, 691 cut nails, 69 wire nails, 890 unidentified nails (including an unidentified number of wrought nails, probably less than 20), 6 pieces of window glass and 353 other flat glass shards, probably also window glass, 26 pieces of roofing slate, 396 pieces of mortar, mostly identified as lime mortar, 1 stone fragment with adhering mortar, 1 spike, 5 bolts, one with an attached nut, 1 ceramic drain pipe sherd, 1 electrical part, 5 lengths of electrical wire, 2 fragments of metal studs, 1 washer, 3 pieces of iron pipes, 7 fragments of door hardware, 1 hinge with 6 attached screws, 4 screws, 1 porcelain insulator fragment, and 1 piece of asbestos shingle. The total number of cut nails should be considered a high estimate as these were in



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Brief Description:

19th century iron furnace complex

Unknown ☐

several instances recorded in the artifact catalogue as "iron nails, all machine cut where determinable"; this implies that some of the nails may have been too fragmentary for positive identification.

Thirty clothing items were also recovered from the site: 23 buttons (1 bone, 9 milk glass, 1 Bakelite, 3 copper alloy, 3 shell, 5 porcelain, 1 plastic), 5 leather fragments, 1 button hook, and 1 copper alloy thimble fragment. The only furniture item found was a handle. A total of 2,962 kitchen-related artifacts were identified: 547 bottle/container glass fragments, 17 pieces of table glass, 5 pieces of milk glass, 9 unidentified bottle/container or table glass, 2,168 ceramic sherds (34 unidentified earthenware, 2 Lusterware, 1 buff-bodied earthenware, 83 pearlware, 7 porcelain, 9 gold-painted porcelain, 1 gold-painted semi-porcelain (possibly misidentified porcelain), 1,654 whiteware, 244 glazed and unglazed redware, 37 manganese glazed redware, 2 brown stoneware, 29 gray stoneware, 2 Blue & Gray stoneware, 25 yellowware, 13 ironstone, 11 Rockingham, 3 creamware, 11 unidentifiable), 16 tin can fragments, 4 utensil fragments (2 possibly silver), 1 bottle opener, 5 kettle fragments, 168 animal bone fragments, some butchered, 1 peach pit, 2 possible horn fragments, 8 snail shells, 5 seed fragments, and 6 clam shells. Fifty-six miscellaneous objects were recorded: 8 pieces of burnt glass, 4 unidentifiable copper objects, 1 unspecified copper alloy rivet, 2 wood fragments, 4 pieces of plastic, 3 pieces of aluminum foil, 1 piece of chalk, 2 coal pieces, and 1 stone identified as possible amber and with a drilled hole of unknown function. There were 11 personal items: 1 Bakelite comb fragment, 1 watch fob, 1 key, 2 coins (1882 and 1913 cent pieces), 2 mouth organ fragments, and 4 bone handle and blade (pocket) knife fragments. A total of 65 tobacco-related objects were retained: 50 undecorated white clay pipe fragments (28 stem, 19 bowl, 3 stem/bowl joint sections), 3 stem fragments with molded decoration and 1 with a yellow glaze, 10 bowl fragments with molded decoration, and 1 plastic cigarette holder. The 5 arms-related items included 2 honey-colored (French) gunflints, a .22 rimfire cartridge case, and 2 shotgun shell fragments.

In addition to the historic artifacts, 15 prehistoric materials were also collected from the site. There were 11 pieces of quartz debitage, 1 Normanskill point generally dated to the Middle Archaic, 1 Bare Island point (Late Archaic-Early Woodland), and 2 unidentifiable point fragments. Three of the points and some of the quartz debitage were found in TU 14 and the remainder of the assemblage was retrieved from elsewhere within Area 1 and from STPs closer to James Run. This suggested that some, at least short-term, occupation occurred in the area closest to James Run prior to the historic period. However, historic disturbance has largely removed the prehistoric materials from their original context.

The 168 animal bone fragments collected from the site were analyzed and identified to species. The identified remains included 20 cattle, 15 pig, 1 sheep/goat, 42 small artiodactyl (hoofed herbivores, most likely pig bones), 1 domestic fowl, 2 cat, 1 rabbit, 1 rodent, 4 turtle, 1 small mammal, 12 large mammal, 3 unidentified fish, and 65 unidentified mammal. A quarter of the 65 unidentified fragments of mammal bone were charred to the point of being calcined. Conversely, very few of the identified bones were charred. This suggested that the charring was a result of the bones being swept into the fire as part of the cleaning process rather than as a part of the cooking process. The majority of the identifiable bones belonged to domestic cattle and pig species; the rabbit, rodent, and turtle fragments, and sheep/goat, and fish obviously did not make up a large part of the diet. One domestic fowl fragment was from an adult hen that may have been kept for eggs. The distribution of cattle bones suggested that meat cuts and not whole carcasses were brought to the site. Cows were known to have been in the furnace estate inventory but were possibly just used for dairy. It was difficult to determine with any certainty if pigs were being butchered at the site; however, the high proportion of humeri indicated that the pigs were not butchered on site. Butchery marks were seen on only 6% of the faunal assemblage and most of the meat appeared to have been of the larger joints, such as roasts, though there was some evidence of smaller cuts such as steaks and chops. Due to the small sample size, conclusions as to status and diet were limited. Presumably the Furnace Store was the source of the meat, although some workers may have kept pigs to supplement their diets.

As a result of the Phase II investigations, it was determined that Area 1 contained important information regarding the lifestyle and foodways of the individuals who lived and worked at Harford Furnace. This has previously been an area of limited archeological research focus. Therefore, the potential of Area 1 for contributing to this subject was deemed significant. Structural remains encountered in Areas 1, 2, 3, and 4 also contribute to the integrity of setting and assist in defining the property's historical spatial organization and land use. With the exception of the deep slag deposit in the central portion of the project area, little disturbance appeared to have occurred at the site. Areas 1, 2, and 3 were located within the right-of-way of the Route 543 bridge replacement project and the archeological resources were identified close to the present ground surface or above grade. Therefore, construction activities were to have an adverse affect on those areas of the site. As such, avoidance was recommended and if not possible, then a data recovery program was recommended for Area 1 and careful cartographic and photographic documentation was recommended for Areas 2 and 3.

A Phase III Data Recovery project was initiated at Site 18HA148 in the summer of 1985. The work focused on Area 1, in and around the house foundation identified during the Phase II testing. The archeological testing was conducted by staff from the Maryland Geological Survey, Division of Archeology, with the support of personnel from the Maryland State Highway Administration, Harford Community College, the St. Mary's City Commission, and others. The data recovery program at the portion of the site to be impacted by the proposed Route 543 realignment was designed to address questions related to site history, layout, the economic status of the site's occupants and their foodways, and how these may have changed through time. The research strategy focused on the Agricultural-Industrial Transition Period (1815-1870).

Detailed archival research was undertaken in addition to fieldwork. Field methods involved first defining a 20 m x 60 m sampling area that was bounded by the existing right-of-way line on the west, the proposed impact limit on the east, and grid line N164 on the south and grid line N220 on the north. A 7% stratified non-aligned random sample of 2x2 m squares was chosen; 1x1 m units were excavated within each square. In all, 16 units (A-P) were dug to the top of subsoil. Units H-J were dug inside the house foundation and Unit K was dug outside the east wall of the foundation. All soils were screened through 0.635 cm (1/4") mesh and a 2-liter flotation sample was retained from each layer of the northwest meter square of each unit. The majority of all cultural material encountered was retained. Slag, however, was quantified for the northwest square and a 2-liter sample of slag was retained from each layer of the northwest square. All encountered soil anomalies and cultural features were drawn and photographs were taken when appropriate. Once the sampling strategy was completed, excavations of larger areas were undertaken. With the use of a Gradall, the plow disturbed soils were removed from an area that measured approximately 40x16 m. No attempt was made to recover artifacts from the spoil but artifacts were grab-sampled when observed. All cultural features that were observed in the subsoil were plotted, drawn, and photographed. Features were excavated and flotation and slag samples were retained. All soil excavated from the features was screened through 0.635 cm mesh and all artifacts were retained. Architectural features were photographed, mapped and sampled.

A heavily compacted slag layer was encountered in 3 units in the extreme north of the sample area. This area was tentatively identified as the access road illustrated on the 1858 map and subsequent maps of Harford Furnace. One quadrant was excavated to sterile subsoil in each of the 3 units in that area. Although it had previously been thought that the site had not been plowed, as excavation proceeded it became apparent that large portions of the site south of the slag concentration had been plowed after the furnace was abandoned. This resulted in numerous plow scars and an abrupt break between the plowzone and subsoil. The stratigraphy was a consistent brown to dark brown plowzone overlying a dark yellowish-brown subsoil. The units in the southernmost portion



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Brief Description:

19th century iron furnace complex

Unknown ☐

of the study area (N-P) encountered disturbed, water lain sand deposits. Modern debris was encountered in the units; therefore, the units were abandoned until the modern alluvial deposits could be removed by mechanical stripping, thereby exposing potentially significant buried resources. Analysis of the artifact distribution indicated that the greatest density of material was located within the house foundations and decreased away from the structure. There was a slightly more dense concentration of materials in the north yard compared to the south yard, suggesting that the south face of the dwelling was the formal side while the northern yard was a service and activity area.

The Area 1 foundation uncovered during the Phase III testing was comprised of mortared and roughly dressed fieldstones. The eastern portion of the foundation (the east wall and a section of the south wall) was heavily disturbed by plowing preventing a complete measurement of the structure. It was revealed that the structure had an H-shaped central chimney and two hearths. If a symmetrical arrangement is assumed, then the building measured approximately 5.2 m by 10.8 m (16x32 ft). The building was probably one and a half or two stories and of frame construction. No Harford Furnace owner was known to have lived on the property and no historical documentation could place a name with the occupant of the dwelling. Based on architectural analogy, the structure possibly represented a two-celled industrial workers' "duplex" which were not uncommon at industrial complexes in the 19th century.

Several cultural features were encountered during the course of the excavation. The 4 layers contained in the west hearth (Features 100, 101, 104, 107) and the 7 layers contained in the east hearth (Features 108-109, 112, 116-119) were all identified as demolition fills. Neither of the hearth beds was preserved in situ, which suggested intentional disassembly at the time of abandonment. Excavation in the northwest corner of the foundation revealed a displaced subsoil horizon (Features 103 and 105) that resulted from placement of the footer trench that held the stone foundation. Beneath the subsoil, a buried A-horizon (Feature 106) was encountered, from which no historic artifacts were found. Excavation north of and adjacent to the eastern hearth also revealed a sequence of displaced subsoil (Feature 113) and a buried A-horizon (Feature 115). A roughly oval soil stain (Feature 111) was intrusive through both layers. It was thought to represent a support for a stair which would have been attached to the central chimney stack. The feature contained a sherd of pottery from a manufacturer who was in business between 1831 and 1835, providing a tentative initial construction date for the building that fit reasonably well with the historic data on when the furnace property was acquired.

Non-architectural features uncovered at the Furnace site included planting holes or beds, lithic concentrations, postholes and postmolds, a privy, drainage trenches, the slag road, and a large trash-filled relict creek channel. Two circular and 1 linear planting beds (Features 65, 72, and 66 respectively) were located in the south ("front") yard. They probably represent different planting episodes through time and their fill probably represented redeposited yard debris. Three distinct areas of lithic concentrations were encountered in the south yard (Features 61-63) and were interpreted as representing reduction areas for preparing the roughly dressed fieldstones used in the foundation and chimney base. No cultural materials were recovered from the lithic features.

Two fence lines were observed in the back ("north") yard. Posthole Features 23, 38, and 84 and postmold Features 22, 37, and 82 formed a north-south fence (fence 1). Fence 1 was interpreted as a woven wire or barbed wire stock fence because of the 4.1 m spacing between the posts. It was suggested that the fence terminated with a gate at the northwest corner of the structure. Posthole and postmold Features 91 and 92 were thought to possibly represent an additional fence also terminating with a gate in the northwest corner of the structure; however, this would have to be clarified by the identification of further posts that would have been located outside the study area. Posthole Features 17, 19, 30, 95, 33 and 43 and postmold Features 58, 69, 78, 94, 32, and 55 formed an east-west fence (fence 2). Fence 2 was thought to have been a plank fence with posts roughly every 2.4 meters. One of the posthole/molds was replaced indicating that the fence was in use for some time. Fence 1 and Fence 2 did not appear to be contemporaneous; they did not intersect at a common post and were of different construction. The back yard planting Features 35 and 88 were arranged roughly parallel with the north-south fence line but the majority of the planting features in this yard were concentrated south of the east-west running fence line.

The privy was situated approximately 3 m north of the building. It measured 1.86 m x 0.96 m and contained 3 distinct fills (Features 39, 57, and 70), none of which was the typical organic-rich fill common in privies suggesting that the pit had been cleaned out. A complete bottle from the lowermost fill was thought to reflect infilling in the last quarter of the 19th century. There was no evidence of a superstructure although Feature 41, a shallow sub-rectangular hole, and Feature 40, two boards set in the hole, may represent 1 of 4 features that made up a support for the privy superstructure (the remaining 3 having been plowed away).

Two linear drainages features (no numbers), that merged into one linear feature, were exposed in the very northwestern portion of the study area. It was not clear if the features were contemporaneous but they were both possibly spillways associated with the raceway used to power the blast furnace or they may have simply been drainage ditches to carry water away from the dwelling since it would have been subjected to frequent inundation. Neither feature contained much artifactual material.

Feature 120 represented a relict creek channel south of the building's "front" yard. The feature was initially identified in Unit O. The channel was further sampled by a 2m square test following mechanical removal of a large slag deposit. Numerous large water worn cobbles were noted at the bottom of the feature. Support for the interpretation of this as a relict creek channel comes from the fact that it parallels the current channel of James Run, and that between this feature and the current channel of James Run is an unfilled relict creek channel similar to Feature 120. The fill in the feature seems to have been deposited over a relatively short term, probably by the occupants of the dwelling. It was probably filled and capped between 1839 and 1845, dating based primarily on ceramic markers (over 1,000 artifacts were recovered from the fill).

A total of 8,574 historic artifacts were recorded in the original site report as having derived from the Phase III investigations in Area 1 at the Harford Furnace Site. No artifact inventory or catalogue was provided in the report and only select artifacts were chosen for detailed analysis and were reported. Therefore, what follows should be considered only a minimum estimate of the total numbers and types of artifacts that were present at the site. Detailed analyses of most of the materials were available in several Appendices in the report.

A total of 4,678 identifiable nails were recorded in the site report. These included 15 wrought nails, 4,503 cut nails (including an unknown number of spikes), 131 L-head nails, and 29 wire nails. An unspecified number of window glass shards were also noted in the site report. These are reported in the table above as a minimum estimate of 20 although the actual number was likely much greater. Analysis of the shards indicated that the modal date for the window glass recovered from the site was 1845-1855. The nails and window glass were recorded as architectural materials in the table above.

A total of 317 clothing items were recorded. There were 238 buttons (37 metal, 21 shell, 91 Prosser/porcelain, 10 ceramic/non-Prosser, 7 rubber, 2 leather, 61 bone), 10 buckles and belt parts, 27 clothing fasteners including shirt studs, hooks and eyes, eyelets, shoe hooks, rivets, and suspender parts, 1 needle, 2 thimbles, 10 straight pins, and 29 leather shoe fragments. The leather fragments represented 20 single shoes and 1 pair. Three of the shoe fragments were recovered from the slag road and the remainder derived from the relict creek bed. The "slag road" sample probably only represented at most one pair of shoes



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Brief Description:

19th century iron furnace complex

Unknown ☐

and consisted of small leather fragments surrounding copper alloy eyelets. The footwear from the creek bed appeared to primarily represent male shoes, mostly adult but with some youth size shoes. A detailed analysis of the footwear suggested several points: 1) the footwear was from several sources, not locally produced; 2) all of the fragments were hand-sewn; 3) cutting from one sample suggested that leather was possibly salvaged at the site; 4) several repairs were made to some specimens; 5) most of the footwear is typical for 19th century laborers although a few examples of fashionable footwear were identified; and 6) the lack of exposure to heat, molten ore, or rough abrasion indicated that the shoes belonged to the builders of the furnace rather than the workers, suggesting that they were deposited during its construction rather than during its operation. A more detailed discussion of the shoe remains is available in Appendix VI in the original site report and a detailed discussion of the buttons is available in Appendix X.

In all, 3,516 kitchen-related artifacts were noted in the report. There were 421 bottle and container glass fragments, 115 pieces of table glass, 2 pieces of milk glass, and 3 glass jar lid fragments. The mean date for the bottle glass was 1868. Also reported were 2,048 animal bone, egg shell, and fish scale and bone fragments, and 262 floral remains.

A total of 30 flotation samples were examined from site features, including the privy, postholes and molds, a board mold, and planting holes. A total of 262 seeds were recovered, 27 specimens of which were charred. The floral remains were divided into five separate categories. Ornamentals included 1 Bedstraw, 2 Butter and Eggs, and 2 Solomon's Seal samples. Bedstraw served several purposes historically; it was a visually pleasing garden plant with fragrant flowers, the shoots could be cooked and eaten, the seeds were used as a coffee substitute, the plant was used as a diuretic and tonic, and the leaves could be made into a salve. Butter and Eggs and Solomon's Seal were both highly ornamental garden plants and a salve could be made from the leaves of the Butter plant and the roots from Solomon's Seal could be use medicinally. Today, these ornamentals are likely to be found only in a natural context. Culinary and medicinal plants make up the second group. Of the 42 specimens collected, 26 were Mustard and 11 were Pokeweed. The remainder were Dock (3), Peppergrass (1), and Squash/Melon (1). Mustard comprised 80% of the charred specimens. Herbs reached their peak in America in the 18th century and by the industrial revolution patent medicines became more widely available. Indeed, large numbers of medicinal bottles (some 70% of the bottles collected) were identified in the glass assemblage. This suggested that these 42 specimens had more of a culinary, rather than medicinal role, at Harford Furnace. The only exception may be pokeweed, which in the 19th century was used to induce vomiting. Charred mustard and Butter and Eggs were the only specimens recovered from a sampled board mold (Feature 41). All the culinary and medicinal plants except for the Squash/Melon family have escaped cultivation and are now considered weeds. The only crop plant recovered from the site area was 2 millet seeds. The fourth category of floral materials consisted of 75 specimens of trees and shrubs. The majority of these were the remains of blackberry (29) and tuliptree (22). The remainder of the assemblage consisted of 5 cherry, 4 chokeberry, 1 dogwood, 4 hawthorne, 5 hemlock, 1 oak, 3 peach pits, and 1 sweetgum. More than half of the trees and shrubs produced edible fruit. The final category of items consisted of weeds and vines. Of the total 138 specimens, 102 were jimsonweed. Although the poisonous jimsonweed was a popular ornamental as early as the 1600s, it is unlikely that by the mid-1800s it continued to hold the status of ornamental. The remainder of the weed and vine assemblage consisted of clover (1), greenbriar (3), hog peanut (2), knotweed (1), May Apple (5), ragweed (1), thistle (11), and woodbine (12).

The floral data did not suggest that the inhabitants at Harford Furnace derived their livelihood from the land or that they devoted much time or energy to horticultural endeavors. They were probably more focused on their work duties than on agricultural pursuits. However, there was some evidence of low maintenance crops such as millet and leafy green vegetables, and possibly the utilization of wild fruit sources (such as blackberries). The presence of domesticated fruits, such as the peach, which would not likely survive the soil conditions in the area, suggested that they were brought onto site rather than grown there. No edible species were collected from the privy, which is usually an ideal environment for preservation of consumed specimens. The only recovered privy specimens were non-edible jimsonweed, clover, and ragweed. Although there was a general absence of ornamental flowers in the assemblage, the presence of planting features at the site indicated at least perennial plantings. Only 2 May Apple seeds were recovered from one of the two tested planting features. The multiple specimens collected from the posthole and mold features were interpreted as deriving from birds. Birds sit on fences and deposit seeds which have passed through their digestive system unharmed. The recovered floral remains did not conform to patterns for rural domestication. The tenants of the Area 1 structure may have combined limited agricultural activities with their industrial activities although they would have grown food items that required little attention.

A detailed analysis of the 2,048 bone fragments (1,381 plowzone samples, 88 grab samples from mechanical trenching, 234 samples from dwelling features, 121 from Feature 120, and 224 specimens from miscellaneous features) was conducted. Only 2,011 of the specimens were presented in Appendix IX in the original site report. Presumably, the remaining 37 bones were too fragmentary to identify. In line with the analysis of faunal materials collected during the Phase II study, the identifiable mammal bones were primarily pig (297) and cow (73). Sheep (3) and sheep/goat (16), and game animals (1 deer, 8 rabbit) make up most of the remainder of the assemblage. Squirrel (3) may have supplemented the diet. Included in the assemblage were 1,217 unidentified large mammal remains, 14 medium mammal remains, and 11 small mammal remains, many of which likely represent pig, cow, and game animals. Pork cuts appeared to be primarily shoulder and ham portions, and the presence of some symmetrically sawn bone suggested ham steak cuts. Cow bones displayed more butchery marks representing cuts such as shank and round steak, and roasts. Both pig and cow bones included extremities and cranial elements that were generally discarded during butchering, suggesting that butchering was being carried out on-site. However, it was also likely that additional, preserved meat was being procured. Chicken and fowl (64), bird bones and eggshells (79) were also present in the assemblage along with yellow perch (45) and catfish (4). Both fish species probably occurred in the lower reaches of James Run and their presence possibly indicated a combination of recreation and food procurement. A further 27 unidentified fish bones were also recorded. Non-food species identified in the assemblage included 1 bobcat humerus (possibly evidence of predator elimination), 16 horse or mule remains (used as draft animals at the furnace), 19 rat bones, 100 house cat bones (possibly representing pet burials), 4 frog-toad and 4 turtle fragments, and 1 chipmunk, 2 shrew, and 2 mole bone fragments. The most extensive damage noted on the bones was the result of weathering, acidic soils, water-logging, and intermittent plowing. Individual specimens exhibited cracks, peeling and pitting, abrasions, discoloration, scavenging (mostly by rats), burning, and butchery marks.

In addition to the glass, faunal, and floral materials, a total of 665 ceramic sherds were reported from the site. There were 637 whiteware sherds (149 plain, 135 painted, 148 transfer printed, 15 sponged, 126 edge decorated, 64 dipped) and 28 ironstone sherds. As was indicated by the Phase II ceramic assemblage, it is likely that several other ceramic types, including redware, stoneware, and porcelain, were present in the assemblage. Detailed analysis was conducted on the whiteware and ironstone as these types were considered to be good temporal indicators. The mean dates for the occupation at the Furnace, based on the ceramic types, ranged from 1853 (the relict creek bed deposit) to 1854 (feature deposits) to 1856 (the plowzone deposits). The presence of large numbers of plain whiteware sherds may push the date forward in time. When mean dates were recalculated excluding plain whitewares, the range was from 1846 to 1849. Analysis of the maker's marks on the ceramics suggested an occupation spanning the 19th century from ca. 1830-1870. Identifiable transfer print patterns also support an occupation beginning in the early- to mid-1830s. Filling of the relict creek bed could be more precisely pinpointed to the period between 1834 when the property was purchased by the furnace company, and ca. 1845 when the area was capped and sealed with slag. The material around the dwelling indicated a moderate wealth range for the occupants. This is probably the result of industrial tenants involvement in a fully cash economy which differentiated them from their agrarian counterparts.



Phase II and Phase III Archeological Database and Inventory

Site Number: 18HA148

Site Name: Harford Furnace

Prehistoric ☐

Other name(s) Harford Iron Furnace

Historic ☒

Unknown ☐

Brief Description: 19th century iron furnace complex

In all, 13 personal items were described. There were 7 coins (2-1860s and 2-1880s Indian Head pennies, an 1857 Flying Eagle cent, and a 1795 large Liberty Cap cent) and 6 chamber pot fragments. A total of 30 tobacco-related objects were found. This included 9 white clay pipe stem and 10 bowl fragments, and 6 reed stem pipe fragments (1 porcelain, 2 stoneware, 3 red earthenware). The pipes with maker's marks point to an occupation spanning the 19th century. No attempt was made to utilize bore dating techniques as their applicability to 19th century samples is uncertain.

A small number of prehistoric materials (n=119) were also recovered from Area 1. There were 71 pieces of debitage (61 quartz, 6 chert, 3 rhyolite, 1 ironstone) and 2 quartz cores. A total of 11 tools were also retained including 2 retouched flakes (quartz), 3 biface fragments (1 quartz, 2 jasper), 2 rhyolite Selby Bay points, 2 Levanna points (1 quartz, 1 jasper), 1 quartz Lamoka point, and 1 quartz Madison point. The Lamoka point dates from the Middle-Late Archaic period and the remaining points date from the Middle-Late Woodland periods. Other lithics (n=17) included 3 quartz chunks, 1 split quartz cobble, 1 quartz cobble (whole), 10 steatite fragments, and 2 chunks of red ochre. There was 1 stone bowl fragment, a worked rim. Site 18HA148 is not that far from documented aboriginal steatite quarries in northeastern Harford County. There were also 2 fire-cracked rocks in the assemblage. A total of 16 ceramic sherds including 1 rim sherd were found at the site. There was 1 Seldon Island sherd and 3 Accokeek sherds dated to the Early Woodland, 2 Late Woodland shell-tempered sherds, 4 unidentified quartz-tempered sherds, and 6 unidentifiable sherds. The presence of prehistoric materials at the site suggested that short-term occupation occurred in the area closest to James Run prior to the historic period. Diagnostic materials collected from all phases of investigation at the site produced a date range from the Middle Archaic period through the Late Woodland period. However, all of the artifacts were recovered from disturbed plowzone or historic feature contexts making any vertical or horizontal assessments of the assemblage impossible. Therefore, the prehistoric component of Area 1 is not considered to be significant.

In addition to the tasks performed in Area 1, the raceway (Area 2) was mapped and a profile was cut through it and the cross-section was drawn. The stone retaining wall (Area 3) previously identified was photographed. The trench excavated across the raceway revealed that it had been dug into the bank above the then current alignment of Route 543. The spoil was piled west (downslope) of the cut in order to produce an outer wall for the race. Once abandoned, the race appeared to have been silted in from slope wash. Reconstruction of the hydraulics of the raceway indicated that the water from James Run was diverted farther upstream with the race cut into the terrace, diverting the water flow into a near level channel. A sufficient head of water to fill the race was created when James Run was dammed. In all likelihood, an aqueduct carried the water across the road from the end of the race to the wheel and powered the bellows to supply the blast for the furnace. The retaining wall (Area 3) appeared to have most likely been in place by 1858. The steps located at the northern end of the wall provided access to the company store. The location of the wall suggested that Route 543 follows an old alignment. No artifacts were recovered from the excavation trench across the raceway or from the area of the stone retaining wall during the Phase III study.

The Harford Furnace Site (18HA148) is a 19th century iron furnace complex. The Harford Furnace Store and the Charcoal Shed/Smith House are the only extant structures located within the site boundaries. Five areas were identified at the site. Area 1 consisted of a dense artifact concentration with associated posthole/mold features representing at least two fence lines, planting features, lithic (fieldstone debris) concentrations, a privy, drainage trenches, a slag road, and a large trash-filled relict creek channel. A wooden structure formerly stood at that location, possibly one of the workers' houses which are documented at Harford Furnace. The material around the domicile suggested a relatively high wealth standard for the tenants that occupied it. The artifact assemblage from Area 1 indicated that the structure was out of use by the mid-late 1880s. Area 2 was defined by the remnants of the former raceway. Area 3 was defined by a stone retaining wall and the remains of stone steps that at one time led up to the Furnace Store. Area 4 was defined by surface foundation remains of a structure identified on the west side of Route 543 just outside the right-of-way in the northern portion of the site. It was determined that the remains would not be impacted by the proposed construction so no Phase III work was undertaken in the area. Area 5 was identified on the east side of Route 543, in the southernmost section of the site. It consisted of a 20th century trash deposit located just north of James Run. It was determined that the remains would not be impacted by the proposed construction. If future earth moving activities are planned in Areas 4 and 5, then further determination of the nature of the deposits, particularly the foundation remains in Area 4, is recommended.

External Reference Codes (Library ID Numbers):

00000393, 00000394, 00000422